

June 1, 2012

RECEIVED

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SUPERFUND DIVISION

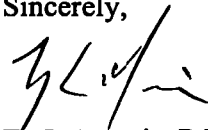
Mr. Jason Gunter
Remedial Project Manager
U.S. Environmental Protection Agency
Region 7 - Superfund Branch
901 North 5th Street
Kansas City, KS 66101

Re: National Mine Tailings Site Progress Report

Dear Mr. Gunter:

As required by Article VI, Section 51 of the Unilateral Administrative Order (Docket No.CERCLA-07-2006-0231) for the referenced project and on behalf of The Doe Run Company and NL Industries, Inc., the progress report for the period April 1, 2012 through April 30, 2012 is enclosed. If you have any questions or comments, please call me at 573-638-5020 or Mark Nations at 573-518-0600.

Sincerely,



Ty L. Morris, P.E., R.G.
Vice President

TLM/jms

Enclosure

c: Mark Nations – TDRC
Matt Wohl – TDRC (electronic only)
Kevin Lombardozzi – NL Industries, Inc.
John Kennedy – City of Park Hills
Norm Lucas – Park Hills – Leadington Chamber of Commerce
Kathy Rangen – MDNR
Tim Skoglund – Barr Engineering

40389785



Superfund

National Mine Tailings Site
Park Hills, Missouri
Removal Action - Monthly Progress Report
Period: April 1, 2012 – April 30, 2012

1. Actions Performed and Problems Encountered This Period:

- a. Work at the site continued on the task of covering the top of the main chat pile with rock. This work focused on placing the crushed rock filter over the area. As of the end of the period, work on this task had been completed. Following the placement of the layer of crushed rock filter, work began on the task of placing a layer of slope riprap on top of the layer of crushed rock filter. As of the end of the period, work on this task had covered approximately 90 percent of the top of the chat pile with the layer of slope riprap.
- b. Work at the site also continued on the task of modifying the southern slope of the stormwater detention basin in the West Area. This work focused on the task of installing the extension to the storm sewer outlet, finishing construction of the berm, and rocking the portions of the berm that had been verified to have been constructed to the final subgrade elevations. As of the end of the period, the southern slope had been rebuilt and the extension had been installed. This had been verified by the surveyors.

Once the area had been verified to have been constructed to the final subgrade elevations, work began on the task of rocking the portions of this area that had been verified to have been constructed to the final subgrade elevations. This work focused on the placement of a layer of crushed rock filter. As of the end of the period, work on this task had been completed.

- c. Work at the site also continued on the Piramal Glass property located west of the Lee Mechanical office building. This work focused on the task of constructing the area to the final subgrade elevations. This task focused on regrading the area to flatten the existing slopes and better define the drainage channel through this area. As of the end of the period, work on this task had been completed and the area had been surveyed to document the work.

Once the area had been surveyed, work began on the task of rocking the portions of this area that had been verified to have been constructed to the final subgrade elevations. This work focused on the placement of a layer of crushed rock filter. As of the end of the period, work on this task had been completed. Following the placement of the layer of crushed rock filter, work began on the task of placing a layer of slope riprap on top of the layer of crushed rock filter. As of the end of the period, work on this task had been completed.

- d. Work at the site continued on the task of meeting with the landowners who may be affected by the removal action activities. This included meeting with landowners who signed an access agreement prior to April 1, 2008, which needed to be amended, as well as landowners who have not signed agreements. As of the end of the period, the following had been accomplished:

Landowners that own property within the site boundary

Total number of landowners = 22

Landowners who signed an access agreement prior to 04/01/08 = 18

Landowners who signed an access agreement after 04/01/08 = 1

Landowners who are reviewing the access agreement = 3

Landowners who have refused to sign the access agreement = 0

Landowners who still need to be met with concerning the access agreement = 0

Total number of landowners who need to sign the amendment letter = 18

Landowners who have signed the amendment letter = 16

Landowners who are reviewing the amendment letter = 1

Landowners who refused to sign the amendment letter = 0

Landowners who still need to be met with concerning the amendment letter = 1

(Changes in the total number of landowners and the total number of landowners who need to sign the amendment letter are as a result of sales that occurred since the meetings with the landowners began.)

Landowners that own property immediately adjacent to the site boundary

Total number of landowners = 27

Landowners who signed an access agreement prior to 04/01/08 = 11
Landowners who signed an access agreement after 04/01/08 = 6
Landowners who are reviewing the access agreement = 4
Landowners who have refused to sign the access agreement = 3
Landowners who still need to be met with concerning the access agreement = 3

Total number of landowners who need to sign the amendment letter = 11
Landowners who have signed the amendment letter = 11
Landowners who are reviewing the amendment letter = 0
Landowners who refused to sign the amendment letter = 0
Landowners who still need to be met with concerning the amendment letter = 0

(It is not anticipated that it will be a challenge to work around the property owned by the three landowners that refused to sign the access agreement based on location of the property in relationship to the work that needs to be completed. Changes in the total number of landowners and the total number of landowners who need to sign the amendment letter are as a result of sales that occurred since the meetings with the landowners began.)

2. Analytical Data and Results Received This Period:

- a. During this period, water samples were collected at the sampling locations identified in Appendix C of the Removal Action Work Plan where water was present. Copies of the analytical results from the last sampling event are included with this progress report.
- b. During this period, the Ambient Air Monitoring Report for fourth quarter 2011 was received. Any issues identified in this report are discussed below. A copy of this document has been sent to your attention.

The fourth quarter 2011 Ambient Air Monitoring Report noted the following:

- The action levels for lead and dust were not exceeded.
- No samples were taken with the TSP monitors on 10/20/11 due to training.
- No samples were taken with the TSP and PM₁₀ monitors on 11/14/11 due to training.
- No samples were taken with the TSP and PM₁₀ monitors on 11/23/11, 11/24/11, 11/25/11, and 11/26/11 due to the holiday.
- No samples were taken with the National #2 (Soccer Field) TSP monitor on 12/6/11 and 12/12/11 due to electrical issues. Upon discovery, the issue was corrected.
- No samples were taken with the Big River #4 QA TSP monitor on 12/20/11 due to mechanical failure. Upon discovery, the issue was corrected.
- No samples were taken with the TSP and PM₁₀ monitors on 12/22/11, 12/23/11, 12/26/11, 12/29/11, and 12/30/11 due to the holiday.

3. Developments Anticipated and Work Scheduled for Next Period:

- a. Continue rocking the portion of the Thin Tailings Area between the haul road and the sewer line from Northing Coordinate N736750 to Northing Coordinate N739000.
- b. Finish rocking the south slope of the stormwater detention pond in the West Area.
- c. Continue constructing the eastern buttressing slope between Northing Coordinate N737900 and Northing Coordinate N738400.
- d. Continue constructing the portions of the West Area in the northwest and southwest corners of the area.
- e. Resume rocking the portions of the West Area that are not already covered with rock.
- f. Complete monthly water sampling activities as described in the Removal Action Work Plan.
- g. Complete air monitoring activities as described in the Removal Action Work Plan.
- h. Continue efforts to contact and meet with the landowners identified as potentially being affected by the removal action activities so that access agreements can be obtained.

4. Changes in Personnel:

- a. None.

5. Issues or Problems Arising This Period:

- a. None.

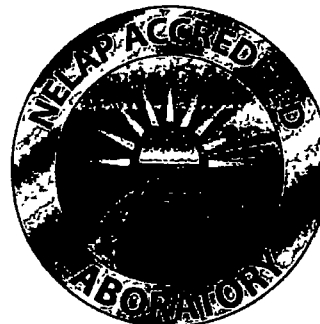
6. Resolution of Issues or Problems Arising This Period:

- a. None.

End of Monthly Progress Report

April 30, 2012

Allison Olds
Barr Engineering Company
1001 Diamond Ridge
Suite 1100
Jefferson City, MO 65109
TEL: (573) 638-5007
FAX: (573) 638-5001



RE: National MTS 25/86-0003

WorkOrder: 12041027

Dear Allison Olds:

TEKLAB, INC received 1 sample on 4/24/2012 11:00:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Michael L. Austin
Project Manager
(618)344-1004 ex 16
MAustin@teklabinc.com



Report Contents

<http://www.teklabinc.com/>

Client: Barr Engineering Company

Work Order: 12041027

Client Project: National MTS 25/86-0003

Report Date: 30-Apr-12

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	4
Laboratory Results	5
Sample Summary	6
Dates Report	7
Quality Control Results	8
Receiving Check List	13
Chain of Custody	Appended

Client: Barr Engineering Company**Work Order:** 12041027**Client Project:** National MTS 25/86-0003**Report Date:** 30-Apr-12**Abbr Definition**

- CCV** Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- DF** Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
- DNI** Did not Ignite
- DUP** Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
- ICV** Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
- IDPH** IL Dept. of Public Health
- LCS** Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
- LCSD** Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MB** Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL** Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.
- MS** Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD** Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW** Molecular weight
- ND** Not Detected at the Reporting Limit
- NELAP** NELAP Accredited
- PQL** Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
- RL** The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
- RPD** Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
- SPK** The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
- Surr** Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
- TNTC** Too numerous to count (> 200 CFU)

Qualifiers

- | | |
|--|---|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| E - Value above quantitation range | H - Holding times exceeded |
| M - Manual integration used to determine area response | ND - Not Detected at the Reporting Limit |
| R - RPD outside accepted recovery limits | S - Spike Recovery outside recovery limits |
| X - Value exceeds Maximum Contaminant Level | |



Case Narrative

<http://www.teklabinc.com/>

Client: Barr Engineering Company

Work Order: 12041027

Client Project: National MTS 25/86-0003

Report Date: 30-Apr-12

Cooler Receipt Temp: 5.2 °C

Locations and Accreditations

Collinsville		Springfield		Kansas City	
Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425	Address	3920 Pintail Dr Springfield, IL 62711-9415	Address	8421 Nicman Road Lenexa, KS 66214
Phone	(618) 344-1004	Phone	(217) 698-1004	Phone	(913) 541-1998
Fax	(618) 344-1005	Fax	(217) 698-1005	Fax	(913) 541-1998
Email	jhriley@teklabinc.com	Email	kmccclain@teklabinc.com	Email	dthompson@teklabinc.com

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2013	Collinsville
Kansas	KDHE	E-10374	NELAP	1/31/2013	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2012	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2012	Springfield
Arkansas	ADEQ	88-0966		3/14/2013	Collinsville
Illinois	IDPH	17584		4/30/2013	Collinsville
Kentucky	UST	0073		5/26/2014	Collinsville
Missouri	MDNR	00930		4/13/2013	Collinsville
Oklahoma	ODEQ	9978		8/31/2012	Collinsville



Laboratory Results

<http://www.teklabinc.com/>

Client: Barr Engineering Company

Work Order: 12041027

Client Project: National MTS 25/86-0003

Report Date: 30-Apr-12

Lab ID: 12041027-001

Client Sample ID: Nat-East

Matrix: AQUEOUS

Collection Date: 04/23/2012 11:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	100		249	mg/L	10	04/26/2012 19:40	R162909
STANDARD METHOD 18TH ED. 4500-H B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		8.17		1	04/24/2012 12:42	R162744
STANDARD METHODS 18TH ED. 2340 C								
Hardness, as (CaCO ₃)	NELAP	5		500	mg/L	1	04/24/2012 14:25	R162803
STANDARD METHODS 18TH ED. 2540 C (TOTAL)								
Total Dissolved Solids	NELAP	20		594	mg/L	1	04/25/2012 11:34	R162870
STANDARD METHODS 18TH ED. 2540 D								
Total Suspended Solids	NELAP	6		< 6	mg/L	1	04/25/2012 8:27	R162831
STANDARD METHODS 18TH ED. 2540 F								
Solids, Settleable	NELAP	0.1		< 0.1	ml/L	1	04/24/2012 12:33	R162782
STANDARD METHODS 18TH ED. 5310 C, ORGANIC CARBON								
Total Organic Carbon (TOC)	NELAP	1.0		1.2	mg/L	1	04/26/2012 13:20	R162912
EPA 600 4.1.1, 200.7R4.4, METALS BY ICP (DISSOLVED)								
Cadmium	NELAP	2.00		< 2.00	µg/L	1	04/24/2012 16:24	77495
Zinc	NELAP	10.0		87.6	µg/L	1	04/24/2012 16:24	77495
EPA 600 4.1.4, 200.7R4.4, METALS BY ICP (TOTAL)								
Cadmium	NELAP	2.00		< 2.00	µg/L	1	04/25/2012 10:49	77499
Zinc	NELAP	10.0		115	µg/L	1	04/25/2012 10:49	77499
STANDARD METHODS 18TH ED. 3030 B, 3113 B, METALS BY GFAA (DISSOLVED)								
Lead	NELAP	4.00	X	17.8	µg/L	2	04/27/2012 8:47	77498
STANDARD METHODS 18TH ED. 3030 E, 3113 B, METALS BY GFAA								
Lead	NELAP	4.00	X	31.5	µg/L	2	04/27/2012 9:21	77502



Sample Summary

<http://www.teklabinc.com/>

Client: Barr Engineering Company

Work Order: 12041027

Client Project: National MTS 25/86-0003

Report Date: 30-Apr-12

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
12041027-001	Nat-East	Aqueous	5	04/23/2012 11:10



Dates Report

<http://www.teklabinco.com/>

Client: Barr Engineering Company

Work Order: 12041027

Client Project: National MTS 25/86-0003

Report Date: 30-Apr-12

Sample ID	Client Sample ID Test Name	Collection Date	Received Date Prep Date/Time	Analysis Date/Time
12041027-001A	Nat-East Standard Methods 18th Ed. 2540 F	04/23/2012 11:10	4/24/2012 11:00:00 AM	04/24/2012 12:33
12041027-001B	Nat-East EPA 600 375.2 Rev 2.0 1993 (Total) Standard Method 18th Ed. 4500-H B, Laboratory Analyzed Standard Methods 18th Ed. 2340 C Standard Methods 18th Ed. 2540 C (Total) Standard Methods 18th Ed. 2540 D	04/23/2012 11:10	4/24/2012 11:00:00 AM	04/26/2012 19:40 04/24/2012 12:42 04/24/2012 14:25 04/25/2012 11:34 04/25/2012 8:27
12041027-001C	Nat-East EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total) Standard Methods 18th Ed. 3030 E, 3113 B, Metals by GFAA	04/23/2012 11:10	4/24/2012 11:00:00 AM 04/24/2012 14:17 04/24/2012 15:41	04/25/2012 10:49 04/27/2012 9:21
12041027-001D	Nat-East EPA 600 4.1.1, 200.7R4.4, Metals by ICP (Dissolved) Standard Methods 18th Ed. 3030 B, 3113 B, Metals by GFAA (Dissolved)	04/23/2012 11:10	4/24/2012 11:00:00 AM 04/24/2012 13:35 04/24/2012 14:06	04/24/2012 16:24 04/27/2012 8:47
12041027-001E	Nat-East Standard Methods 18th Ed. 5310 C, Organic Carbon	04/23/2012 11:10	4/24/2012 11:00:00 AM	04/26/2012 13:20



Quality Control Results

<http://www.teklabinc.com/>

Client: Barr Engineering Company
Client Project: National MTS 25/86-0003

Work Order: 12041027
Report Date: 30-Apr-12

EPA 600 375.2 REV 2.0 1993 (TOTAL)

Batch R162909		SampType: MBLK		Units mg/L						
SampID: ICB/MBLK										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate	10		< 10						04/26/2012	
Sulfate	10		< 10						04/26/2012	

Batch R162909		SampType: LCS		Units mg/L						
SampID: ICV/LCS										Date
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed	
Sulfate	10		22	20	0	109.6	90	110	04/26/2012	
Sulfate	10		22	20	0	109.6	90	110	04/26/2012	

Batch R162909		SampType: MS		Units mg/L						
SampID: 12041027-001B MS										Date
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed	
Sulfate	100		346	100	248.6	97.1	85	115	04/26/2012	

Batch R162909		SampType: MSD		Units mg/L				RPD Limit 10		
SampID: 12041027-001B MSD										Date
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Analyzed
Sulfate		100		359	100	248.6	110.2	345.8	3.70	04/26/2012

STANDARD METHOD 18TH ED. 4500-H B, LABORATORY ANALYZED

Batch R162744		SampType: LCS		Units						
SampID: LCS										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lab pH		1.00		6.99	7.00	0	99.9	99.1	100.8	04/24/2012

Batch R162744		SampType: DUP		Units					RPD Limit 10		Date Analyzed
SampID: 12041027-001BDUP											
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Lab pH		1.00		8.18				8.170	0.12	04/24/2012	

STANDARD METHODS 18TH ED. 2340 C

Batch R162803		SampType: MBLK		Units mg/L						
SampID: MB-R162803									Date Analyzed	
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Hardness, as (CaCO3)	5		< 5						04/24/2012	

Batch R162803		SampType: LCS		Units mg/L						
SampID: LCS-R162803										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Hardness, as (CaCO3)	5		1020	1000	0	102.0	90	110	04/24/2012	



Quality Control Results

<http://www.teklabinc.com/>

Client: Barr Engineering Company
Client Project: National MTS 25/86-0003

Work Order: 12041027
Report Date: 30-Apr-12

STANDARD METHODS 18TH ED. 2340 C

Batch R162803		SampType: MS		Units mg/L						
SampID: 12041027-001BMS										Date
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed	
Hardness, as (CaCO3)	5		880	400	500.0	95.0	85	115	04/24/2012	

Batch R162803		SampType: MSD		Units mg/L				RPD Limit 10		
SampID: 12041027-001BMSD										Date
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Analyzed
Hardness, as (CaCO3)		5		900	400	500.0	100.0	880.0	2.25	04/24/2012

STANDARD METHODS 18TH ED. 2540 C (TOTAL)

Batch R162870		SampType: MBLK		Units mg/L						
SampID: MBLK										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		< 20						04/25/2012
Total Dissolved Solids		20		< 20						04/25/2012

Batch R162870		SampType: LCS		Units mg/L						
SampID: LCS										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		982	1000	0	98.2	90	110	04/25/2012

Batch R162870		SampType: LCSQC		Units mg/L						
SampID: LCSQC										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		968	1000	0	96.8	90	110	04/25/2012

Batch R162870		SampType: MS		Units mg/L						
SampID: 12041027-001B MS										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		1130	500	594.0	108.0	85	115	04/25/2012

Batch R162870		SampType: MSD		Units mg/L				RPD Limit 15		
SampID: 12041027-001B MSD										Date
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Analyzed
Total Dissolved Solids		20		1130	500	594.0	106.8	1134	0.53	04/25/2012

STANDARD METHODS 18TH ED. 2540 D

Batch R162831		SampType: MBLK		Units mg/L						
SampID: MBLK										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Suspended Solids		6		< 6						04/25/2012

Client: Barr Engineering Company
 Client Project: National MTS 25/86-0003

Work Order: 12041027
 Report Date: 30-Apr-12

STANDARD METHODS 18TH ED. 2540 D

Batch R162831		SampType: LCS		Units mg/L						
SampID: LCS										Date
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed	
Total Suspended Solids	6		106	100	0	106.0	85	115	04/25/2012	
Total Suspended Solids	6		100	100	0	100.0	85	115	04/25/2012	
Total Suspended Solids	6		108	100	0	108.0	85	115	04/25/2012	

Batch R162831		SampType: DUP		Units mg/L				RPD Limit 15			
SampID: 12041027-001B DUP										Date Analyzed	
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Total Suspended Solids		6		< 6				0	0.00	04/25/2012	

STANDARD METHODS 18TH ED. 5310 C, ORGANIC CARBON

Batch R162912		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											Date
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed	
Total Organic Carbon (TOC)		1.0		< 1.0						04/26/2012	

Batch R162912		SampType: LCS		Units mg/L						
SampID: ICV/LCS										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)		5.0		50.4	48.2	0	104.5	89.6	109.5	04/26/2012

Batch R162912		SampType: MS		Units mg/L					
SampID: 12041027-001EMS									
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)	1.0		5.9	5.0	1.230	93.0	80	120	04/26/2012

Batch R162912		SampType: MSD		Units mg/L				RPD Limit 15		
SampID: 12041027-001EMSD										Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Total Organic Carbon (TOC)		1.0		5.8	5.0	1.230	91.4	5.880	1.37	04/26/2012

EPA 600 4.1.1, 200.7R4.4, METALS BY ICP (DISSOLVED)

Batch 77495		SampType: MBLK		Units µg/L						
SampID: MB-77495										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Cadmium	2.00		< 2.00	2.00	0	0	-100	100	04/24/2012	
Zinc	10.0		< 10.0	10.0	0	0	-100	100	04/24/2012	

Batch 77495		SampType: LCS		Units µg/L						
SampID: LCS-77495										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Cadmium	2.00		45.0	50.0	0	90.0	85	115	04/24/2012	
Zinc	10.0		476	500	0	95.1	85	115	04/24/2012	



Quality Control Results

<http://www.teklabinc.com/>

Client: Barr Engineering Company

Work Order: 12041027

Client Project: National MTS 25/86-0003

Report Date: 30-Apr-12

EPA 600 4.1.1, 200.7R4.4, METALS BY ICP (DISSOLVED)

Batch 77495		SampType: MS		Units µg/L						
SampID: 12041027-001DMS										Date Analyzed
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Cadmium	2.00		44.5	50.0	0	89.0	75	125	04/24/2012	
Zinc	10.0		556	500	87.6	93.8	75	125	04/24/2012	

Batch 77495		SampType: MSD		Units µg/L				RPD Limit 20			
SampID: 12041027-001DMSD										Date Analyzed	
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD			
Cadmium	2.00		44.0	50.0	0	88.0	44.5	1.13	04/24/2012		
Zinc	10.0		549	500	87.6	92.2	556.5	1.43	04/24/2012		

EPA 600 4.1.4, 200.7R4.4, METALS BY ICP (TOTAL)

Batch 77499		SampType: MBLK		Units µg/L						
SampID: MB-77499										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Cadmium	2.00		< 2.00	2.00	0	0	-100	100	04/25/2012	
Zinc	10.0		< 10.0	10.0	0	22.0	-100	100	04/25/2012	

Batch 77499		SampType: LCS		Units µg/L						
SampID: LCS-77499										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Cadmium	2.00		49.0	50.0	0	98.0	85	115	04/25/2012	
Zinc	10.0		511	500	0	102.1	85	115	04/25/2012	

Batch 77499		SampType: MS		Units µg/L						
SampID: 12041027-001CMS										Date
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed	
Cadmium	2.00		47.3	50.0	0.3	94.0	75	125	04/25/2012	
Zinc	10.0		609	500	114.8	98.9	75	125	04/25/2012	

Batch 77499		SampType: MSD		Units µg/L				RPD Limit 20			
SampID: 12041027-001CMSD										Date Analyzed	
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD			
Cadmium	2.00		47.3	50.0	0.3	94.0	47.3	0.00	04/25/2012		
Zinc	10.0		616	500	114.8	100.3	609.3	1.11	04/25/2012		

STANDARD METHODS 18TH ED. 3030 B, 3113 B, METALS BY GFAA (DISSOLVED)

Batch 77498		SampType: MBLK		Units µg/L							
SampID: MB-77498											Date
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed		
Lead	2.00		< 2.00	2.00	0	26.9	-100	100	04/25/2012		
Lead	2.00		< 2.00	2.00	0	0	-100	100	04/27/2012		

Client: Barr Engineering Company
 Client Project: National MTS 25/86-0003

Work Order: 12041027
 Report Date: 30-Apr-12

STANDARD METHODS 18TH ED. 3030 B, 3113 B, METALS BY GFAA (DISSOLVED)

Batch 77498		SampType: LCS		Units µg/L						Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	
Lead		2.00		14.5	15.0	0	96.4	85	115	04/27/2012
Lead		2.00		15.6	15.0	0	104.0	85	115	04/25/2012

Batch 77498		SampType: MS		Units µg/L						Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	
Lead		4.00		30.6	15.0	17.8192	85.0	70	130	04/27/2012

Batch 77498		SampType: MSD		Units µg/L						RPD Limit 20	Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Lead		4.00		30.8	15.0	17.8192	86.4	30.5646	0.68		04/27/2012

STANDARD METHODS 18TH ED. 3030 E, 3113 B, METALS BY GFAA

Batch 77502		SampType: MBLK		Units µg/L						Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	
Lead		2.00		< 2.00	2.00	0	0	-100	100	04/27/2012

Batch 77502		SampType: LCS		Units µg/L						Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	
Lead		2.00		15.4	15.0	0	102.4	85	115	04/27/2012

Batch 77502		SampType: MS		Units µg/L						Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	
Lead		8.00		47.3	15.0	31.5418	104.9	70	130	04/27/2012

Batch 77502		SampType: MSD		Units µg/L						RPD Limit 20	Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Lead		8.00		49.4	15.0	31.5418	119.2	47.2742	4.45		04/27/2012



Receiving Check List

<http://www.teklabinc.com/>

Client: Barr Engineering Company

Work Order: 12041027

Client Project: National MTS 25/86-0003

Report Date: 30-Apr-12

Carrier: Heather Riley

Received By: SRH

Completed by:

On:

24-Apr-12

Timothy W. Mathis

Reviewed by:

On:

24-Apr-12

Michael L. Austin

Pages to follow: Chain of custody

1

Extra pages included

0

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Temp °C 5.2

Type of thermal preservation?

None ☐

Ice ☒

Blue Ice ☐

Dry Ice ☐

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Reported field parameters measured:

Field ☐

Lab ☐

NA ☒

Container/Temp Blank temperature in compliance?

Yes ☒

No ☐

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water - at least one vial per sample has zero headspace?

Yes ☐

No ☐

No VOA vials ☒

Water - TOX containers have zero headspace?

Yes ☐

No ☐

No TOX containers ☒

Water - pH acceptable upon receipt?

Yes ☒

No ☐

Any No responses must be detailed below or on the COC.

Custody seal(s) intact on shipping container/cooler.



Teklab Chain of Custody

Pg. 1 of 1

Workorder

12041027

5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618)344-1004 ~ Fax: (618)344-1005

Barr Engineering Co.		
1001 Diamond Ridge, Suite 1100		
Jefferson City	MO	65109
National MTS - 25/86-0003		

Are the samples chilled? ☒ Yes ☐ No with: ☒ Ice ☐ Blue icePreserved in ☒ Lab ☒ Field

Cooler Temp 5.2 Sampler Chris Schulte

Comments

Invoice to Mark Nations. Results to Allison Olds and Mark Nations, mnations@doerun.com
Matrix is surface water.
Metals = Cd, Pb, Zn

Custody seal intact, TM 4-24-12

Contact Allison Olds

eMail aolds@barr.com

Phone 573-638-5007

Requested Due Date Standard

Billing/PO Per contract with Doe Run

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	pH	TSS	Total Dissolved Solids	Sulfate	Settleable Solids	T.O.C	Total Metals	Dissolved Metals	Hardness			
2041027 001	Nat-East	4/23/12/11:10	Unpres	5	Aqueous	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
			Unpres		Aqueous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			Unpres		Aqueous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			Unpres		Aqueous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			Unpres		Aqueous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			Unpres		Aqueous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			Unpres		Aqueous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			Unpres		Aqueous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			Unpres		Aqueous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Teklab, Inc.
Courier Pick Up

Relinquished By*	Date/Time	Received By	Date/Time
W. S. / B. / 13	4/23/12/14:45	Heather B.	4/24/12 9:45
Heather B.	4/24/12 1:00	Stephanie Barnes	4/24/12 1:00

* The individual signing this agreement on behalf of client acknowledges that they have read and understand the terms of this agreement and that they have the authority to sign on behalf of client.